

ABSTRACT OF THE DISCLOSURE

A method of forming a microlens structure is provided along with a CCD array structure employing a microlens array. An embodiment of the method comprises providing a substrate having a surface with

5 photo-elements on the surface; depositing a transparent material overlying the surface of the substrate; depositing and patterning a photoresist layer overlying the transparent material to form openings to expose the transparent material; introducing a first isotropic etchant into the openings and etching the transparent material where exposed to form

10 initial lens shapes having a radius; stripping the photoresist; exposing the transparent material to a second isotropic etchant to increase the radius of the lens shapes; and depositing a lens material overlying the transparent material, whereby the lens shapes are at least partially filled with lens material. An embodiment of the CCD array comprises an array

15 of CCD pixels on a substrate; and a lens array in contact with the array of CCD pixels; wherein the lens array comprises a transparent material having concave indentations, and a lens material at least partially filling the concave indentations forming a plano-convex lens in contact with the transparent material.